Didactic Requirements for the Formation of Steam – Compensations in the Teaching of Natural Sciences in Primary Classes

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ABSTRACT

This article covers the formation of STEAM-compensation in primary school students and the requirements and suggestions for this to the teacher profession as well as the didactic requirements in general to the competency of compensation in relation to Primary School.

KEYWORDS: *STEAM, Science, Technology, Engineering, Art, Mathematics, robotics, competence and competence.*

Primary school is the initial stage of education. It is here that the formation of the foundation of a harmonious personality takes place. All qualifications are formed at the initial stage of training. Since the primary school has laid the foundation for general education skills and educational activities, the focus is on creating a framework for the individual to receive continuing education in the secondary school and then beyond, these basic competences are formulated at the initial stage. The basis of continuing education is important.

Compensation does not cover education only with learning. It connects the lesson and life, is connected with education and extracurricular work. The basis of compensation is independence. A competent person is a person who is able to take responsibility in different situations, is ready to expand the limits of his knowledge and improve it.

STEAM is a new method of teaching schoolchildren, it is an alternative system to the traditional system of teaching. It is based on the system of teaching children at the same time in Science (Natural Sciences), Technology (Technology), Engineering (Engineering), Art (Art) and Mathematics (Mathematics) students take lessons with the help of practical and entertainment project classes. The term STEAM was first introduced into the school program in the US and focuses on the development of students' comps in the areas of scientific technology. Then this line was inserted and additional letters were introduced into the term.

Included: ”R“ - began to be called STEAM, adding a ”STREM - Deb" or "a" - art-curse, adding robotics. STEAM (S-science, T-Technology, E - engineering, a - art, M - mathematics) - a modern approach that unites science, technology, engineering, art and mathematics today's era demand puts great tasks before world education, that is, it must prepare the child to live in society in the future. In the first place, it is necessary to form the image of professionals who work actively in harmony with rapidly changing, updated information in today's school age. The acquisition, processing and use of information in practice constitute the basis of the STEAM training program.

As proof of our thoughts above, President Shavkat Mirziyoyev emphasized the following points: “it is well known to you that all the reforms and changes carried out in our country, wide-ranging programs are aimed at a single and glorious goal. It is also to make the life of our people more prosperous and prosperous, to educate our children in every way mature and harmonious.”

In fact, the main purpose of our reforms and scientific research, which are increasing us all, is to educate young people in a harmonious way. On the ground of the research carried out by each professor-teacher lies exactly the same table. It is very important to formulate STEAM - competences in the teaching of natural sciences, like all subjects in the elementary school. Unlike other disciplines, the natural sciences are a community and the student learns. Form a kind, friendly mood in relation to nature, environment and mutual each other in the readers.

STEAM education directly links the development of schoolchildren with an external scientist. It is known that the technology, directly related to the scientist in the Natural Sciences around us, is constantly used in our daily lives, and engineering is reflected in houses, roads, bridges and machinery, is a profession, our daily magnitudes are also associated with little or no mathematical science. The STEAM education-based approach allows the reader to systematically explore the world for young people, to logically observe the processes taking place around them, to realize the interaction between them, to discover something new, unusual and interesting for him. By waiting for some kind of novelty the development of curiosity in the reader's youth leads to identifying for himself an interesting issue, developing an algorithm for finding a solution, critical evaluation of the results, the formation of engineering aspects of thinking.

Today's active reader is an active member of tomorrow's society.

In relation to primary school, competence refers to the following skills:

1. Search-interrogate the environment, consult with the teacher, get information; think - build relationships, be in a critical attitude to a particular statement, take a position in the statement and develop your own point of view.
2. Cooperation-work in a group, make decisions, resolve disagreements and disputes, conduct negotiations, fulfill obligations assumed by the group.
3. Get a job - get into a group or team, contribute, organize your work.
4. Adaptation is the use of new technologies of information and communication, persistent resistance to difficulties, finding new solutions.

The most important personal competences required for continuing education include:

- Communicative ability.
- Information compensation.
- Ability to solve problems.

Each of the main compensations has its own structure. It is possible to distinguish individual components (aspects) expressed in a particular activity.

In students, compressions can be formed at different levels. Most often, three degrees are distinguished: application, use and enrichment. They correspond to three levels of general education: primary, primary and senior. At the initial stage, the student applies the methods of activity studied in certain situations; at the primary school level, he uses the methods of activity in different situations, transfers the methods to other, previously unknown situations; at the higher stage, the methods of activity studied are enriched by the student and become the basis for the independent activities of the student. In primary school, compressions are formed mainly at the first stage, in which the method of activity studied can be used independently by the student.

The most effective way to formulate basic competences among students is the use of adequate pedagogical technologies by the teacher, which is the subject of the student's activities. Basic educational technology that supports a competency-based approach is a method of projects because it

provides students with an independent search activity and a minimum cost path to create conditions for solving problems. At the same time, the student's goal is related to the change in reality, the teacher's goal is to create situations in which communicative, information and problem-solving skills are formed.

Compensations are also formed in the lesson when using research methods, methods of practical situations, methods of modeling, methods of discussion, story games, etc. The main attention should be paid to the fact that the children themselves actively engage in teamwork.

The main task of the modern education system is to create conditions for obtaining quality education. The introduction of a competency-based approach is an important condition for improving the quality of education. In the opinion of Modern teachers, the possession of life compensations itself gives a person the opportunity to move in modern society, the formation of the ability to quickly respond to modern requirements in a person.

In this regard, the role of professional competent teachers in the educational activities of students established by them in the modern pedagogical process is significantly increasing.

So what is ”competence“ and ”compensation”?

Competence - 1) the circle of issues that know someone well; 2) the circle of powers, rights of someone.

Compensation is a set of issues, phenomena that a person has competence, knowledge, experience.

In other words, competence is the ability to establish and realize the connection between "knowledge-skill" and the situation. Sometimes it is argued that the compensations are the goal (put before the person), and the competency is the result.

Suggestions and recommendations.

- Constantly training on STEAM in teachers
- Formation of STEAM skills in students
- Introduction of SMART education and opportunities in training

Conclusion.

What should the teacher manage in order to carry out the collective learning of Natural Sciences in primary school students? First of all, regardless of the technology that the teacher uses, he must remember the following rules:

1. The main thing is not the science that you teach, but the personality that you formed. A person is not a subject, but a teacher is formed through his activities related to the study of science.
2. Do not devote neither time nor effort to the upbringing of activity.
3. To help the students to master the most effective methods of teaching and learning activities, to teach them to learn.
4. To teach reason to think “why?" the question should be used more:
5. Remember, not the one who spoke it again, but the one who practiced it knows.
6. To teach students to think and act for themselves.
7. Develop creative thinking through a comprehensive analysis of problems; solve cognitive tasks in several ways, perform creative tasks more often.

8. Do not forget to take into account the individual characteristics of each student in the learning process, combine students with different subgroups in which the level of knowledge is the same.
9. To study and take into account the life experience, interests, developmental characteristics of students.
10. Encourage students' research. Find the opportunity to familiarize yourself with the techniques of experimental work, problem solving algorithms, processing of primary sources, references.
11. Teach the reader in such a way that he understands that knowledge is a vital necessity for him.
12. Explain to the readers that each person learns everything necessary for the implementation of his life plans, finds his place in life.

These useful rules-only a small part of the tips, only pedagogical wisdom, pedagogical skill and one end of the general pedagogical experience of many generations. Remembering them, inheriting them, showing them the way-the most important goal of the teacher is a condition that can facilitate the formation and development of the personality.

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